

REMARKS

The Office Action and the cited and applied references have been carefully reviewed. No claim is allowed. Claims 1, 4-9, 12, 19, 20 and 26-28 presently appear in this application and define patentable subject matter warranting their allowance. Reconsideration and allowance are hereby respectfully solicited.

Claim 23 has been objected to because of informalities. This objection is obviated by the cancellation of claims 21-24 without prejudice to the filing of a continuation application.

Claims 1, 4, 6, 7, 10 and 12 have been rejected under 35 U.S.C. §102(b) as being anticipated by Nass-Arden et al., *Mol. Rep. Dev.*, 25:369-373 (1990). This rejection is respectfully traversed.

Nass-Arden teaches that quercetin inhibits the motility of ram sperm cells in the first two hours of incubation/treatment and it is only during the next 3 to 4 hours that motility is stimulated. This is in contrast to what was found by the present inventors. In Examples 1 and 2 (pages 11-15 of the present specification and Figs. 1, 2, 3, 4, 6 and 7), several sperm cell parameters, and in particular motility, are stimulated during the first two hours of incubation/treatment of the seminal fluid with PI3K inhibitor.

To clarify this distinction, claim 1 is now amended to positively recite that the seminal liquid is treated for "up to two hours" with a PI3K inhibitor, as supported by the two hour incubation/treatment disclosed in Examples 1 and 2 and by the one hour incubation disclosed at the bottom of page 7 of the present specification. Accordingly, Nass-Arden cannot anticipate the presently claimed invention.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Claims 1, 4-10, 12 and 19-29 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Nass-Arden in view of Vlahos et al., *J. Biol. Chem.*, 269(7):5241-5248 (1994) and Bonjouklian et al. U.S. Patent 5,378,725. This rejection is respectfully traversed.

The secondary Vlahos and Bonjouklian references are being applied by the examiner only for their disclosures of quercetin and wortmannin as inhibitors of PI3K. There is no disclosure or teaching in Vlahos or Bonjouklian that would satisfy the deficiency in Nass-Arden as disclosed above in the §102(b) anticipation rejection. Clearly, Nass-Arden teaches away from the presently claimed method by specifically reporting that sperm cell motility is inhibited by quercetin during the first two hours of incubation. Accordingly, Nass-Arden in combination with Vlahos and Bonjouklian cannot lead

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one of ordinary skill in the art of the present claimed invention.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

In view of the above, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

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